



General Notes

All materials and workmanship shall be in accordance with the requirements of the state of Washington, Department of Transportation, Standard Specifications for Road, Bridge, and Municipal Construction, current edition. The utility conduits shall be labeled in accordance with Section 6-01.10.

All steel in utility supports, including fastenings and anchorages, shall be galvanized in accordance with AASHTO M-111 or M-232 (ASTM A-123 or A-153 respectively).

All utilities and utility support surfaces, including any galvanized utilities, shall be given a primer coat of state standard formula A-6-86 and two coats of state standard formula C-9-86. The final coat shall match the bridge color.

Galvanized metal or aluminum utilities completely hidden from public view may be exempted from the above painting requirements.

Any painted surfaces damaged during construction shall be cleaned and painted as noted above.

Any paint splatters shall be removed from the bridge.

Appearance of the utility installation shall be given serious consideration in all cases. Where possible, the utility installation shall be hidden from public view.

The notes and criteria explained here are presented as a guide only. Each proposed utility installation shall be submitted to the Department of Transportation for approval on an individual basis. Compliance with these criteria does not assure approval, nor does variance from these criteria, for reasonable cause, necessarily exclude approval.

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Design Criteria

1. All pipe lines carrying gas or highly volatile fluids shall be encased throughout the length of a structure. A sleeve approximately 3 inches (80 millimeters) larger than the outside diameter of the pipe line being encased shall be used. The space between the pipe and encasement must be effectively vented at each end. All pipe systems under pressure shall state the maximum operating pressure and test pressure on the plans.
2. Utilities shall not be attached above the bridge deck nor attached to railing or rail posts.
3. Utilities shall not extend below bottom of superstructure.
4. The utilities shall be provided with suitable expansion devices near bridge expansion joints and/or other locations as required to prevent temperature and other longitudinal forces from being transferred to bridge members.
5. Rigid conduit shall extend 10 feet (3 meters) minimum, beyond the end of the bridge.
6. Utility supports shall be designed such that neither the conduit, the supports, nor the bridge members are overstressed by any loads imposed by the utility installation.
7. Utility locations and supports shall be designed so that a failure (rupture, etc.) will not result in damage to the bridge, the surrounding area, or be a hazard to traffic.
8. Conduit shall be rigid.

(Items 1 through 8 may be cross-referenced with Bridge Design Manual, Section 8-3.5D(1-8).)

9. Lag screws may be used for attaching brackets to wooden structures. All bolt holes shall meet the requirements of Sections 6-04.3(4) and 6-04.3(5) of the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, current edition.
10. Welding across main members will not be permitted. All welding must be approved.
11. Utilities shall be located to minimize bridge maintenance and bridge inspection problems.
12. Attach conduits or brackets to the concrete superstructure with resin bond anchors. Lag screws shall not be used for attachment to concrete.
13. Drilling through reinforcing steel will not be permitted. If steel is hit when drilling, the anchorage location must be moved and the abandoned hole filled with nonshrink grout conforming to the requirements of Section 6-03.3(36) of the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, current edition.
14. There shall be a minimum of 3 inches (80 millimeters) edge distance to the center line of bolt holes in concrete.
15. All utilities and utility supports shall be designed not only to support their dead load but to resist other forces from the utility (surge, etc.) and wind and earthquake forces. The utility company may be asked to submit one set of calculations to verify their design forces.
16. Drilling into prestressed concrete members for utility attachments shall not be allowed.
17. Water or sewer lines to be placed lower than adjacent bridge footings shall be encased if failure can cause undermining of the footing.

Exhibit " _____ "

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